

Results of Uncertainty Analyses

In the June 2001 draft analytical plan, EPA proposed to present a summary form of the uncertainty analyses by presenting low and high estimates for benefits, net benefits, and the benefit/cost ratio. We proposed to present results in much the same format as the first prospective (see Table 11-2 below), in part to facilitate comparisons to the first prospective, but anticipated being able to provide entries for the low and high cost estimates, rather than leaving them blank as was done in the first prospective. In addition, we proposed to generate primary central, primary low, and primary high net benefits and benefit/cost ratio estimates with a probabilistic aggregation procedure, rather than the straightforward “ratio” calculation presented in the first prospective. In other words, we planned to develop a distribution of net benefits and benefit/cost ratios based on a Monte Carlo simulation of the subtraction of costs from benefits (for net benefits) or the division of benefits by costs (for the benefit/cost ratio). The 5th percentile of the resulting distributions would be the low estimate, and the 95th percentile would be the high estimate.

Our general strategy for presenting the results of uncertainty analyses is largely the same as in the June 2001 presentation, but we expect to be able to provide a more detailed and descriptive analysis of the results of the significantly enhanced uncertainty analyses proposed in Chapter 9. We hope that the enhanced uncertainty analysis will both provide a more comprehensive basis for characterizing uncertainty, and an ability to assess the likelihood of at least some of the alternative paradigm outcomes (e.g., alternative C-R specifications for PM mortality). We continue to anticipate a need to supplement the primary central results by calculating alternative estimates for some uncertainties that may not be addressed in the enhanced uncertainty analysis. One new calculation that will be presented along with the results of any alternative paradigm results is the QALY-based cost-effectiveness analysis results. Our proposed methodology for this analysis is described in Chapter 8.

The Agency has decided to include an alternative estimate until the formal probability analysis provides a better approach to characterizing the breadth of the uncertainty. Given the use of the Alternative, can the Council provide suggestions for improvement?

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